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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,967	11/14/2003	Richard A. Proulx	086333.00003	3175

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EXAMINER

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,967

Applicant(s)

PROULX ET AL.

Examiner

Joseph S. Del Sole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/10/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. If applicant desires to claim the benefit of a prior-filed application, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. Therefore, the first paragraph must be updated to include the current status of the parent application and thus --and now US 6,910,227B2-- must be added to the first paragraph of the specification.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of

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such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Specification

2. The disclosure is objected to because of the following informalities: **a)** at page 16, line 18 (paragraph [0054]) “breaker plate 46” appears to be in error since the breaker plate is elsewhere referred to as “34”.

Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “46” as found in the specification page 16, line 18 (paragraph [0054]). However the Examiner notes that this may be an error in the specification (see above). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 2, 10, 11, 12, 13, 14, 21, 27 and 29 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject

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matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Each of these claims sets forth a manner in which the apparatus is operated; they are thus a process of using the apparatus and do not further limit the apparatus.

Double Patenting

5. Applicant is advised that should claim 32 be found allowable, claim 36 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The Examiner notes that since claim 29 is not further limiting, claim 36 is identical to claim 32 (the only difference being its dependence on claim 29).

6. Applicant is advised that should claim 35 be found allowable, claim 37 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). The Examiner notes that since claim 29 is not further limiting, claim 37 is identical to claim 35 (the only difference being its dependence on claim 29).

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of claims 1, 2, 10, 11, 12, 13, 14, 15, 20, 21, 27, 28, 29 are vague and indefinite because they set forth the limitation "predetermined speed", which is unclear. One would not know the metes and bounds of the speeds encompassed by this limitation. The Examiner suggest changing "predetermined speed" to --speed--.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 28-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx (5,807,462) in view of any of Groff et al (4,288,463), Groff (4,445,838), Soderlund et al (3,876,743), Cockings et al (5,492,706), Heck et al (5,670,185), Bortone (6,607,772), Israel et al (5,609,903) each in further view of Mize et al (4,186,239).

Proulx teaches the basic claimed apparatus for forming a cutting line having a housing (Fig 8, #28); and a plurality of extrusion dies disposed in the housing, each of the dies defining a hole configuration in the lower end thereof for the extrusion of one or more monofilament polymer strands therethrough; and a fluid flow pathway disposed within the housing adapted for fluid communication with a source of molten monofilament polymer material for directing the material onto the dies (col 2, lines 1-47 and Figures 1, 2, 5, 6 and 8).

Proulx does not teach twisting filaments by a drive assembly by rotating each die about a central longitudinal axis during extrusion at a specific speed using a plurality of drive cylinders, a drive motor and gears, a drive engagement surface; the die holes being of equal diameter spaced apart a distance less than the diameter; the die holes connected together at adjacent edge portions; or a hole having the cross-section of an oblate spheroid.

Groff et al (each of 4,288,463 and 4,445,838) teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1), the holes being of equal diameter spaced apart a distance less than the diameter and connected together at adjacent edge portions (Fig 1) for the purpose of forming a twisted extrusion product. Soderlund et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, engagement surface and motor (Fig 1), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 5) for the purpose of forming a twisted extrusion product. Cockings et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Figs 1 and 3), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Heck et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1) for the purpose of forming a twisted extrusion product. Bortone teaches twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 4), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Israel et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and

engagement surface (Figs 1, 7 and 10) for the purpose of forming a twisted extrusion product.

Mize et al teaches twisting multi-lobed cutting filaments and teaches an oblatelike shaped filament (it is implicit that the die hole that formed the filament of Mize et al be oblatelike shaped) for the purpose of reducing fibrillation (col 6, lines 5-15 and Fig 11). Further, Mize et al substantially teaches rotating a filament of any desired shape about a central longitudinal axis.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Proulx with a rotating dies as taught by any of Groff et al, Groff, Soderlund et al, Cockings et al, Heck et al, Bortone, Israel et al because such rotating dies serve to enable the formation of twisted extrusions such as the windings taught by Mize.

13. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Proulx (5,807,462) in view of any of Groff et al (4,288,463), Groff (4,445,838), Soderlund et al (3,876,743), Cockings et al (5,492,706), Heck et al (5,670,185), Bortone (6,607,772), Israel et al (5,609,903) each in view of Mize et al (4,186,239) and further in view of any of Mott (3,802,821), Cooksey (4,072,457), Machuque (4,217,083), Starnes, Jr (5,346,383), and Ueda et al (6,284,174).

Proulx, Groff et al, Groff, Soderlund et al, Cockings et al, Heck et al, Bortone, Israel et al, Mize et al teach the apparatus as discussed above. Furthermore, the Groff et al and Groff references and the Bortone reference teach a planetary gear assembly (Figures 1). Still further, Mize et al teach that differing hole configurations are desirable

to form different product configurations, including a die configuration of holes connected by thin web (Figures 7-11).

Proulx fails to teach a breaker plate disposed in the chamber, the plate defining an inclined inner portion and a substantially planar outer portion, the inner portion directing molten material from the channel onto the outer portion.

Mott teaches a breaker plate (Fig 1, #s 15 and 17) upstream of extrusion holes having an inclined inner portion and a planer outer portion, the inner portion directing molten material from the channel onto the outer portion for the purpose of filtering the material before extrusion (col 1, lines 45-55). Cooksey teaches a breaker plate (Fig 1, #s 15 and 16) upstream of extrusion holes having an inclined inner portion (Fig 1, #16) and a planer outer portion (Fig 1, #15), the inner portion directing molten material from the channel onto the outer portion for the purpose of distributing and filtering material to the extruder (col 4, lines 45-47). Machuque teaches a breaker plate (Fig 1, #16) upstream of extrusion holes and having an inclined inner portion and a planer outer portion, the inner portion directing molten material from the channel onto the outer portion for the purpose of diffusing the material (col 4, lines 1-10). Starnes, Jr teaches a breaker plate (Fig 4) upstream of extrusion holes (Fig 3) and having an inclined inner portion (Fig 4, R and V) and a planer outer portion (Fig 4, the side at #220), the inner portion directing molten material from the channel onto the outer portion for the purpose of equalizing pressure through the breaker plate (col 4, lines 6-16). Ueda et al teach a breaker plate (Fig 6, #86) upstream of extrusion holes having an inclined inner portion

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and a planer outer portion, the inner portion directing molten material from the channel onto the outer portion for the purpose of arranging flows (col 12, lines 8-17).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Proulx with a breaker plate as taught by any of Mott, Cooksey, Machuque, Starnes, Jr, and Ueda et al because such breaker plates serve to distribute and or filter polymeric material prior to extrusion.

References of Interest

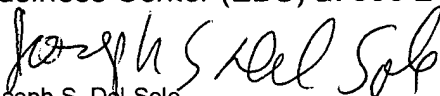
14. Groff et al (6,450,796), Fux et al (6,805,543), Horna et al (6,896,504) are cited of interest to show the state of the art.

Correspondence

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).


Joseph S. Del Sole
October 26, 2005